

**Claims**

What is claimed is:

1. A method of generating a number, comprising:  
generating a bit of a first value if a phenomena is represented by an odd variable, and generating a bit of a second value if the phenomena is represented by an even variable.
2. The method of claim 1, further comprising steps of:  
repeating the step of generating a bit to obtain more than one bit; and  
concatenating the bits to form a new number.
3. The method of claim 2, further comprising a step of arranging the bits  
before concatenating the bits.
4. The method of claim 2, further comprising a step of:  
taking measurements of the phenomena at intervals, in which each of  
the measurements provides one variable for use in generating  
one bit.
5. The method of claim 4, in which the measurements are taken with respect  
to a changeable reference.
6. The method of claim 4, in which the bits are generated from non-successive  
measurements.
7. The method of claim 4, in which the measurements are positional errors.

8. The method of claim 1, in which the variable comprises a position error signal.
9. A system for generating a number, comprising:
  - a detector configured to translate a detected phenomena into one or more quantitative measurements; and
  - a generator configured to generate a bit of a first value if a selected quantitative measurement is odd and to generate a bit of a second value if the selected quantitative measurement is even.
10. The system of claim 9, in which the generator is further configured to form a new number by concatenating the bits generated.
11. The system of claim 10, in which the generator is further configured to arrange bits for concatenation.
12. The system of claim 10, further comprising a host for receiving the new number from the generator.
13. The system of claim 12, in which the new number is used for controlling access to the host.
14. The system of claim 12, in which the generator is part of a data storage device associated with the host, and in which the new number is used for controlling access to the data storage device.
15. A data storage device, comprising:
  - a disc having at least one track;

heads configured to read or write substantially along the track; and  
the system of claim 9, in which the detectors comprises the heads.

16. The data storage device of claim 15 in which the phenomena relates to the position of the heads relative to the track.
17. The data storage device of claim 16 in which the quantitative measurements include position error signals.
18. The data storage device of claim 16 in which the quantitative measurements are taken with reference to at least one previously defined track.